Mr. Rich had no opportunity to reply to these accusations before the House. It is hoped that he will be called before the House of Delegates at the session in June, 1947, to substantiate or disprove the accusations made against him.

Only after such a procedure can the House reach a final opinion as to the proper position of the N.P.C. in the field of public relations of the A.M.A.

The net result of the acceptance of the Rich report as amended by the committee of the House of Delegates will be to strengthen the A.M.A., improve its efficiency and place its public relations in the hands of competent, trained personnel.

Encephalitis in California and the Pacific Area

During the past decade practicing physicians and public health personnel in California have very rapidly and progressively become more conscious of the human encephalitis problem. Among the other infectious diseases "virus pneumonias" alone have bid for equal or greater increase in attention. This growing interest in encephalitis has been due, in part at least, to a large number of closely related local research developments: isolation of the virus of equine encephalomyelitis from horses and later from man, provision for virus neutralization and complement fixation tests for diagnosis, isolation of the virus from naturally infected mosquitoes, notably *Culex tarsalis* and from other species, its experimental transmission by this and other species, and epidemiological studies implicating birds as a source of mosquito infection. During this same time, the St. Louis encephalitis virus was also suspected of playing a role in human infection within the state, and this second virus was eventually isolated within California from *Culex* mosquitoes (*Culex tarsalis*) which were also shown to be capable of transmitting the virus, and of acquiring it from infected birds. Finally, last year, this virus was isolated from a human brain. All these discoveries were made or confirmed from materials collected in the San Joaquin Valley by research workers at the Hooper Foundation of the University of California, except for the isolation of St. Louis virus from man, which was made by workers at the Virus and Rickettsial Research Laboratories of the California State Health Department where research of this nature was just beginning. The State Laboratories have also recently instituted a state-wide serological diagnostic service. Such a service had previously been conducted on a smaller scale by the Hooper Foundation.

We cannot determine when human encephalitis became an important disease in the Central Valleys of the State, for its season coincides with that of poliomyelitis, and we know that prior to the development of virus laboratory tests, encephalitis was usually diagnosed as poliomyelitis. Even now, when its presence is suspected and the clinical manifestations more readily recognized, the differential diagnosis in mild cases—and even in some severe ones—remains a very difficult problem. Available statistics, therefore, are of no practical value in its study. Another complicating factor in the consideration of reported cases is that this disease is reportable only as "infectious encephalitis," an outmoded name having no specific etiological significance. Although we recognize that the two arthropod-borne virus encephalitides mentioned above can be acquired only during the hot summer season in some of the valley areas where there are very high sustained temperatures and prolific breeding of certain types of mosquitoes, we have many cases of "infectious encephalitis" reported during all months of the year from all areas—valley, coastal and mountain. These reports include many types of encephalitis. By performing specific laboratory tests on a selected group at the cost of several thousand dollars each year, only about 25 to 50 cases are proven to be due to these two known viruses. However, there is presumptive evidence of from 100 to 1,000 cases a year in the Central Valleys alone. Case fatality rates average from 5 to 20 per cent, and a small proportion of survivors suffer permanent mental or motor injury. Of these a high percentage require life long institutional care. Many of these infections may not be caused by one of the recognized viruses. In fact, sera from a large number of those patients with an illness resembling the St. Louis or Western equine type clinically, fail to give a positive reaction with either of these viruses. Nor can the patients be shown to be infected with poliomyelitis virus. A new virus which may be responsible for some of the cases has now been isolated repeatedly from mosquitoes from Kern County. The presence of other viruses there is suspected. While the encephalitis problem is obviously highly important, it is extremely difficult to quantitate.

Since it has now been well established that certain of these infections are maintained by mosquito transmission, usually from bird to man (there is good evidence which suggests that man and horses are not infectious to each other) the problem of the control of encephalitis has assumed a fairly definite form. Since human morbidity rates are so much lower than those of horses, protection by vaccination has not been recommended as a method of group control. Moreover, vaccine is only available for one of the types known to be present. With control of an enormous bird population obviously impossible, mosquito control is indicated as the first line of defense.

Recognizing the importance of mosquito control for both malaria and the encephalitides, the State Health Department requested funds for mosquito control from the State Legislature. In

1945 $600,000 was allocated for research and control measures. This is another step in leadership for California, for these funds were the first from any state to be appropriated for encephalitis control.

Meanwhile, the Army, Navy and the United States Public Health Service have been cognizant of the encephalitis problem in the Pacific Area. The Public Health Service and the State of California have been aware of the possibility of malicious or accidental introduction into this state of the more highly fatal Japanese B virus. Research on this virus during the war had been conducted at the Hooper Foundation, as well as at several other laboratories, under Army and O.S.R.D. contracts. The Army and Navy had prepared an experimental vaccine which was finally given to over 20,000 on Okinawa in August, 1945, when an epidemic among natives involved our troops and resulted in several casualties. Hooper Foundation epidemiologists serving as Army consultants were flown to Okinawa and assisted in studying the outbreak. Because of the lateness of the season, and the thoroughness of mosquito control measures which had been instituted at the very outset of the epidemic, little could be learned of conditions existing previous to the outbreak.

During the following winter and spring, one of the same investigators, with other scientists. was again requested to serve with the Army in Japan to initiate research, confer with Japanese scientists and make recommendations for the control of the disease among American troops in the Pacific and the Orient during the summer of 1946. Recommendations were made for vaccination of all troops and American civilians, and *Culex* mosquito control about cantonment areas in certain countries and islands. Later, a California engineer from the staff of the University of California School of Public Health was flown to Japan to advise on effective mosquito control measures. Routine vaccination was performed in Japan, Okinawa and Korea.

It had been shown experimentally that at least five species of California mosquitoes could transmit Japanese B virus in the laboratory, and since similar types of experiments conducted with dengue virus proved negative, attention was focused on malaria and encephalitis prevention insofar as California was concerned. The United States Public Health Service, together with the Army and the Navy established careful mosquito control programs about air fields where planes from the Pacific were landing, and careful inspection and spraying of planes was instituted at several of the island stops. In addition to these precautions, both State Health Department and the United States Public Health Service encouraged, supported and participated in the local research programs. They realized that should an exotic virus be imported, knowledge pertaining to its control and that of other viruses of a closely related group would be of the greatest value. Suitable mobile equipment and large stock piles of DDT were accumulated to meet any emergency which might arise. The State Health Department conducted research in certain areas, and contracted with the Hooper Foundation to extend their studies which were then being carried out with funds from the National Foundation for Infantile Paralysis and the United States Army. United States Public Health Service personnel were assigned to the State Health Department, and some of these in turn to the Hooper Foundation.

Thus, California has taken a leading role, not only in its own domestic encephalitis control problem (a problem as vital in certain other Western States) but research from this state has been applied to problems of the War in the Pacific, and in preventing the introduction of exotic viruses into California and other Western states. This is an example of planned and organized correlated efforts of the State University (with assistance from the National Foundation for Infantile Paralysis, the Army and the Office of Scientific Research and Development), the California State Health Department and the United States Public Health Service. Fortunately, in all probability thus far, no new virus has been introduced. and no serious extension or unprecedented outbreak of the local infections has occurred. Unfortunately, for the credit to be given to the services of research and preventive public health, there is absolutely no way to measure what undesirable conditions have been avoided. Public Health practice as it applies to disease prevention lacks the dramatic appeal of curative practice—especially among the laymen. An epidemic stopped short in its furious onslaught has great publicity value, but the control of an endemic situation, or an epidemic completely prevented, though actually a greater accomplishment receives no public acclaims.

WHAT? AGAIN?

With another session of the California Legislature scheduled for next January the question again comes up—Are we to have another drive for anti-vivisection legislation? Only the proponents of such legislation could adequately answer such a question but there are some signposts which may point to the prospects for 1947.

First of all, we must remind ourselves that various people of good intent and considerable estate have died over a period of years and have bequeathed capital funds to professional societies as trust funds to provide income to promote anti-vivisection laws. Such funds lie idle for a period of years while the income from them accumulates to proportions which make possible a full-fledged professional fight for anti-vivisection legislation. There has not been such a fight in California for about eight years now, and unless